



Faculty of Computer Science and Information Technology

## **Mobile-based Stress Relief Assistant Application**

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Bachelor of Computer Science with Honours  
(Software Engineering)

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# **Mobile-based Stress Relief Assistant Application**

ENG JIA WEI

This project is submitted in partial fulfillment of the  
requirements for the degree of  
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(Software Engineering)

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ENG JIA WEI (51688)

13 May 2018

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## **ABSTRACT**

In today's world, stress is omnipresent. Most of us experience stress when we do not have the control to deal with the upsetting or difficult issues in our life. There are still have many issues that can trigger the stress. Therefore, we need some effective ways to relieve stress. In this project, a mobile-based stress relief assistant has been proposed. The purpose of the app is to allow the user to use the app in assisting them to relieve stress in their daily life. The user can arrange or plan their routines nicely with time management system. User also able to receive the reduce stress feedback or suggestion by apps. Next, app will send the reminder to notify user about their event schedule. Furthermore, user can view their total working time, sleeping time and more by view the statistic report.

## **ABSTRAK**

Pada zaman ini, orang ramai berkemungkinan menghadapi tekanan. Kebanyakan kita mengalami tekanan apabila kita tidak mempunyai kawalan untuk menangani isu-isu yang mengganggu atau sukar dalam hidup kita. Masih ada banyak masalah yang boleh menyebabkan tekanan. Oleh itu, kita memerlukan beberapa cara yang berkesan untuk mengurangkan tekanan. Dalam projek ini, satu aplikasi mobil yang membantu mengurangkan tekanan telah dicadangkan. Tujuan aplikasi ini adalah untuk membantu pengguna untuk melegakan tekanan dalam kehidupan mereka. Pengguna boleh mengatur atau merancang rutin dengan baik dengan sistem pengurusan masa. Pengguna juga dapat menerima cadangan daripada aplikasi. Seterusnya, aplikasi akan menghantar peringatan untuk mengingatkan pengguna tentang jadual acara mereka. Selain itu, pengguna boleh melihat jumlah masa kerja mereka, waktu tidur dan banyak lagi dengan melihat laporan statistik.

# **Chapter 1 Introduction**

## **1.1 Introduction**

There are few types of techniques that can help to reduce the stress, time management is one of the effective ones. Time is one of the things that we can never get enough. A good time management can facilitate the productivity and minimize stress (Khatib, 2014). Without proper time management skills, we can't do all the things that we plan to achieve or to complete, then as a result we feel stress because of this. One of the benefits with effective time management is you need not to worry about your task progress or constantly having to chase a deadline. The stress that come with task will be reduce or managed well, by a clear plan with the timeline and milestones. You able to track your task progress, thus staying calm and focused with your task without rushing to meet its deadline. Another benefit is you can get enough of rest when you manage your time properly. Have a good scheduling will allow you to rest or sleep at a reasonable time, then only can obtain enough energy to get through the next day. Time management can help you feel in greater control of your time. This will reduce your stress level because it makes you calmer. By mastering the time management skills, it helps to enjoy your life to the fullest.

Apart from time management, there are some activities that also help to reduce stress. Exercises considered vital for our mental fitness, it effective at reducing fatigue, tension and improve the ability to gain proper sleep. There have been consistent findings that people report feeling calmer after a 20 to 30-minute bout of aerobic exercise, and the calming effect can last for several hours after exercise (Jackson, 2013). Music on the other hand, can stimulate our brainwaves which will change your mood and reduce your stress. Select the music that suits you the best, it helps you to relax and be calm (Scott, 2018). Lack of sleep or rest leads to one feeling tired and that will increase



the level of stress. Simple routine of deep breathing, whereby you briefly stop your work and taking a few deep breaths will help you feel more relaxed and alleviate your stress levels (Ma, et al., 2017). Additionally, balanced diet, eating regularly 3-4 times a day, will help you to control your moods. Your meal planning should be on time and if possible, do not skip any of it. Finally, having a hobby is a great stress reliever, make some time for your hobbies. Find some relaxing hobbies that makes you feel good, such as swimming. All the activities mentioned above can add into your timeline and manage it.

## **1.2 Problem Statement**

In today's world, stress is omnipresent. Stress is often defined as a state of mental or emotional strain caused by circumstances (Link, 2018). Most of us experience stress when we do not have the control to deal with the upsetting or difficult issues in our life. For example, failure to complete certain tasks within the deadline. Whereby this issue will stick in our minds and lead to some health or psychological conditions such as headaches, agitation, depression or even sleep disorders. Deadlines are the most common causes of stress, more than 30% of respondents selected deadlines as their biggest cause of stress. (Manola, 2017). There are still have many issues that can trigger the stress. When the stress becomes excessive and unmanageable it can seriously affect one's health (Kutty, 2017). Therefore, we need some effective ways to relieve stress.

### **1.3 Scope**

This project is an android based mobile application and only support English version. Built using Java programming language with Android studio platform. The minimum SDK requirements of this mobile app is API 19: Android 4.4 (KITKAT). The target user is the one who has the stress problem in their daily life.

### **1.4 Objectives**

- i) To develop a stress relief mobile app system
- ii) To provide an intelligent mechanism for real time feedback on stress level alleviation
- iii) To generate summary report of activities performed (measures) and calculated general wellbeing status based on analysed data collected

### **1.5 Methodology**

Rapid Application Development (RAD) is the methodology which have been used in this project. One of the benefits of RAD is can quickly and accurately measure the progress of the project. It also reduces the development time and suitable for single developer.

RAD follows four phases: -

- i) Requirements Planning
  - This phase is equivalent to discussion on the project scope. Firstly, find the current problem. Next, define and finalize the requirements for the project.

ii) User design

- The process of this phase is iterative. There are 3 stages in this process which are design the prototype, do testing and refine it. This phase contains three cycles in this project. It will move to next phase once the prototype is meet the expectations.

iii) Construction

- Phase 3 is the actual development task, take the prototypes from the previous phase and converts them to working model. In this phase, still can suggest changes or add the new features as the apps is being developed.

iv) Cutover

- This is implementation phase, launch the completed product.

## 1.6 Project Schedule



Figure 1.1 Project Schedule: Gantt Chart

### **1.7 Project Significance**

Significance of the project is to allow the user to use the app in assisting them to relieve stress in their daily life. This is achieved by using the time management technique with an intelligent feedback or suggestion system. For example, it will suggest the user to rest or do some relaxing activities when detect the user have long period of work. Relaxing activities included deep breathing, exercise, listen to music. The app will also contain the statistic report.

### **1.8 Expected Outcome**

The intended outcome of this project is Android based app that acts as an assistant to the user in the process of stress relief. The user can arrange or plan their routines nicely with time management system. Furthermore, user able to receive the reduce stress feedback or suggestion by apps. Reminder for to have good eating habits and exercise. User can view their total working time, sleeping time or relaxing time by view the statistic report.

## **1.9 Project Outline**

This project outline is categorized into five chapters

- i. Chapter 1 Introduction
  - Describe the overview and introduction of this project.
- ii. Chapter 2 Literature Review
  - Discuss about stress and the stress relief techniques. Next, focuses on comparison between the similar existing apps. Functionality of this project app is proposed after reviewed and compared.
- iii. Chapter 3 Requirement Analysis and Design
  - Discuss about the methodology used in this project. Requirement is analysed and designed,
- iv. Chapter 4 Implementation and Testing
  - Focus on the implementation and do the testing.
- v. Chapter 5 Conclusion and Future Work
  - Summarise the overall activities of the project and discuss about the future work.

## **Chapter 2 Literature Review**

### **2.1 Introduction**

This chapter discusses on literature review of the project. Literature review help to identify the best approach to achieve the project goal. This literature review will discuss about stress and the stress relief techniques. Next, focuses on comparison between the similar existing apps. There exist many apps that have the similar features with this project and four type of the existing apps have been chosen in this study.

The main three functions of the mobile app in this project are time management, intelligent suggestion and the statistic report. One of the intelligent suggestions is to notify the user to rest or do some reduce stress activities when detect user have long period of working hours. Therefore, the mobile apps that have the reduce stress activities function are chosen for comparison. Another comparison is the apps that have time management function with the statistic report.

### **2.2 Stress and the stress relief techniques**

Nowadays, stress is normal and natural part of our life. Stress is often defined as a state of mental or emotional strain caused by circumstances (Link, 2018). Most of us experience stress when we do not have the control to deal with the upsetting or difficult issues in our life. For example, failure to complete certain tasks within the deadline. Whereby this issue will stick in our minds and lead to some health or psychological conditions such as headaches, agitation, depression or even sleep disorders. Deadlines are the most common causes of stress, more than 30% of respondents selected deadlines as their biggest cause of stress. (Manola, 2017). There are still have many issues that can trigger the stress. When the stress becomes excessive and unmanageable it can seriously affect one's health (Kutty, 2017). Therefore, we need some effective ways to relieve stress.

There are few types of techniques that can help to reduce the stress, time management is one of the effective ones and this technique is the main features in this app. Time is one of the things that we can never get enough. A good time management can facilitate the productivity and minimize stress (Khatib, 2014). Time management can help you feel in greater control of your time. Apart from time management, there are some techniques that also help to reduce stress. Exercises considered vital for our mental fitness, it effective at reducing fatigue, tension and improve the ability to gain proper sleep. There have been consistent findings that people report feeling calmer after a 20 to 30-minute bout of aerobic exercise, and the calming effect can last for several hours after exercise (Jackson, 2013). Music on the other hand, can stimulate our brainwaves which will change your mood and reduce your stress. Select the music that suits you the best, it helps you to relax and be calm (Scott, 2018). Lack of sleep or rest leads to one feeling tired and that will increase the level of stress. Simple routine of deep breathing, whereby you briefly stop your work and taking a few deep breaths will help you feel more relaxed and alleviate your stress levels (Ma, et al., 2017). Additionally, balanced diet, eating regularly 3-4 times a day, will help you to control your moods. Your meal planning should be on time and if possible, do not skip any of it. Finally, having a hobby is a great stress reliever, make some time for your hobbies. Find some relaxing hobbies that makes you feel good, such as swimming. All the activities mentioned above can add into your timeline and manage it.

## 2.3 Existing Apps

### 2.3.1 TickTick

TickTick is a time management app which helps user make schedule and remind about the deadlines. It easy to use because no have any complicated features. Basically, this app is focus on the task scheduling and it will send the notification on time to remind user the task. All the task added by user will show in the main screen, there are 2 type of views which are the calendar view and timeline view (Figure 2.1 and Figure 2.2). This app will ask user about the progress of the task, it will generate a statistic to show user the completion rate of user task based on the user feedback (Figure 2.3).

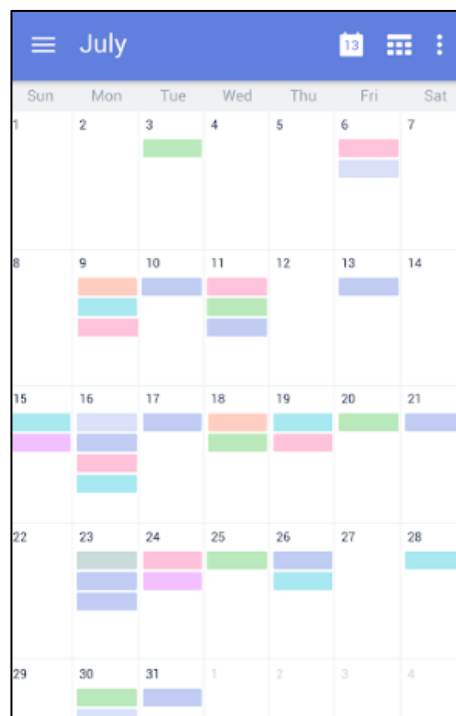


Figure 2.1 TickTick: Calendar View